

Fig 1

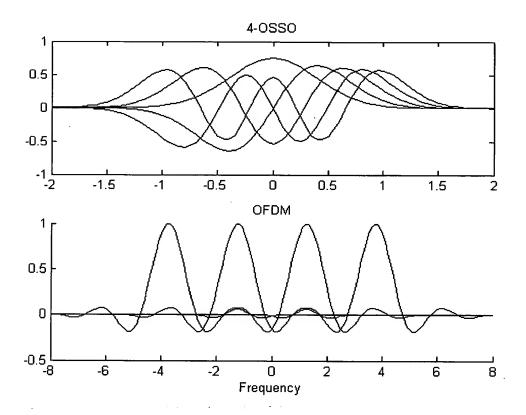
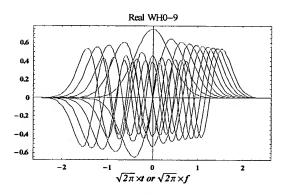
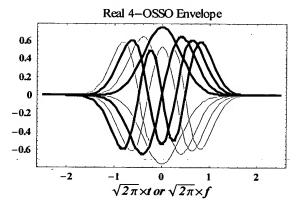


Fig 2





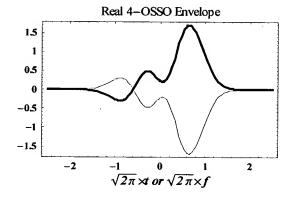


Fig 3

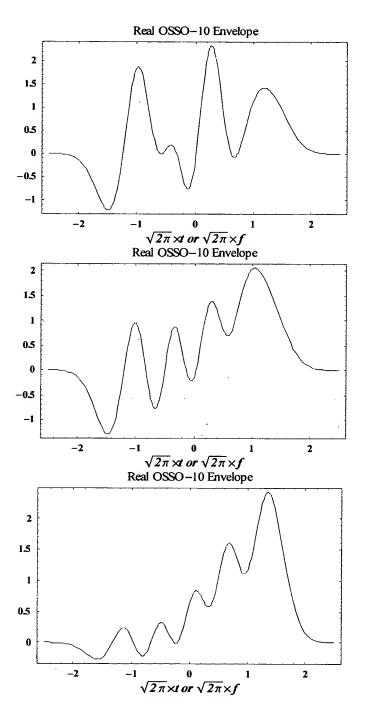
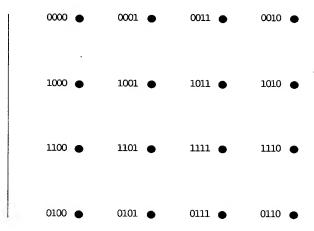


Fig 4



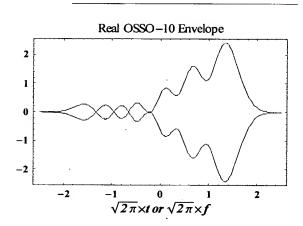


Fig 5

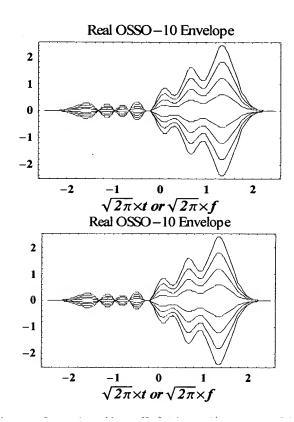


Fig 6

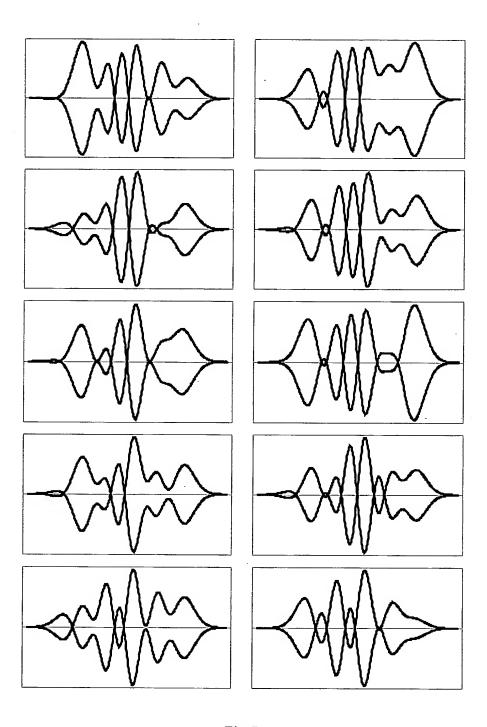
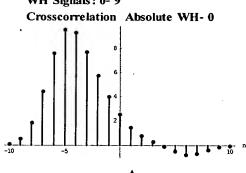


Fig 7

## **CROSS-CORRELATIONS: TIME DOMAIN**

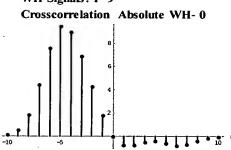
### **PRESENT**

WH Signals: 0-9



#### **ABSENT**

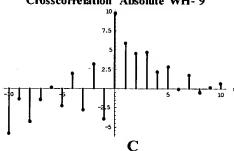
WH Signals: 1-9



 $\mathbf{B}$ 

WH Signals: 0-9

Crosscorrelation Absolute WH-9



WH Signals: 0-8

Crosscorrelation Absolute WH-9

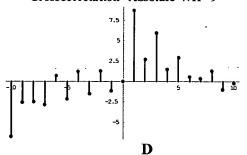


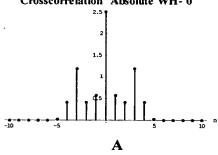
Fig 8A

# **CROSS-CORRELATIONS: FREQUENCY DOMAIN**

# **PRESENT**

Frequency Domain WH Signals: 0-9

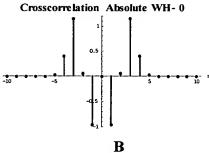
Crosscorrelation Absolute WH-0



#### **ABSENT**

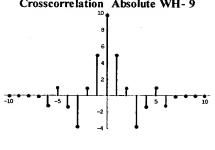
Frequency Domain

WH Signals: 1-9



Frequency Domain WH Signals: 0-9

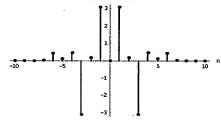
Crosscorrelation Absolute WH-9



 $\mathbf{C}$ 

Frequency Domain WH Signals: 0-8

Crosscorrelation Absolute WH-9



D

Fig 8B

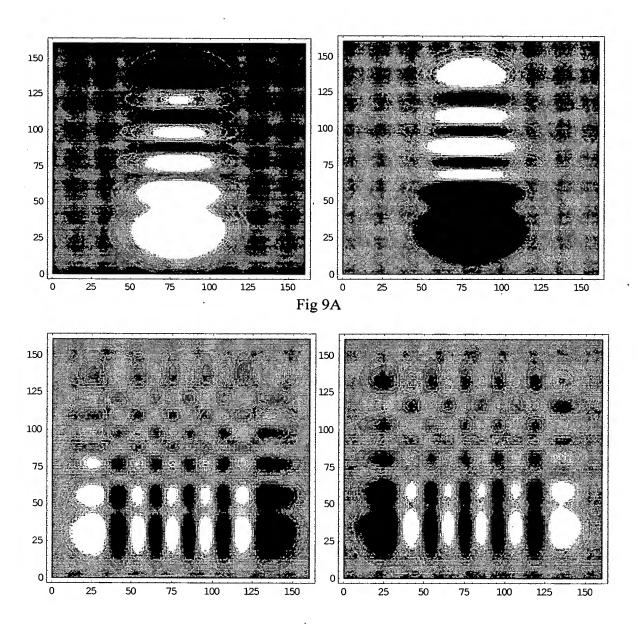


Fig 9B

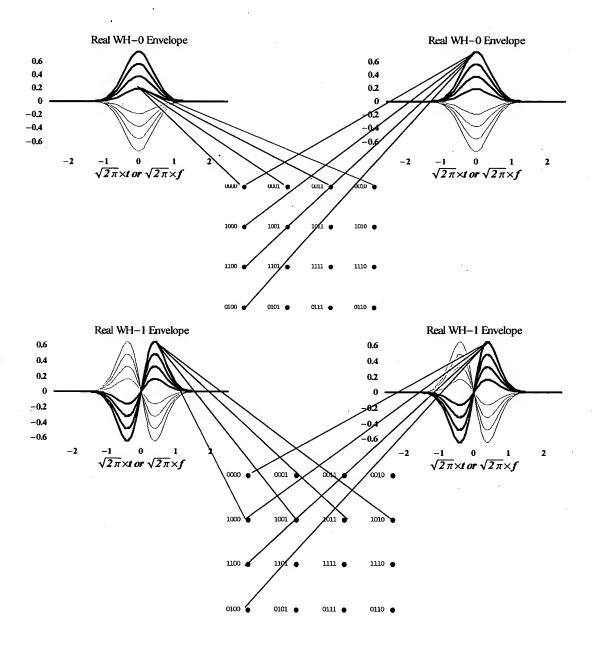


Fig 10A

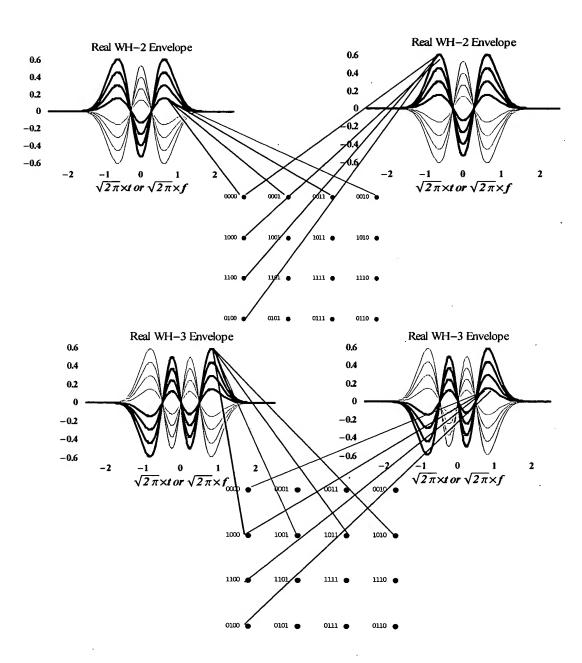


Fig 10B

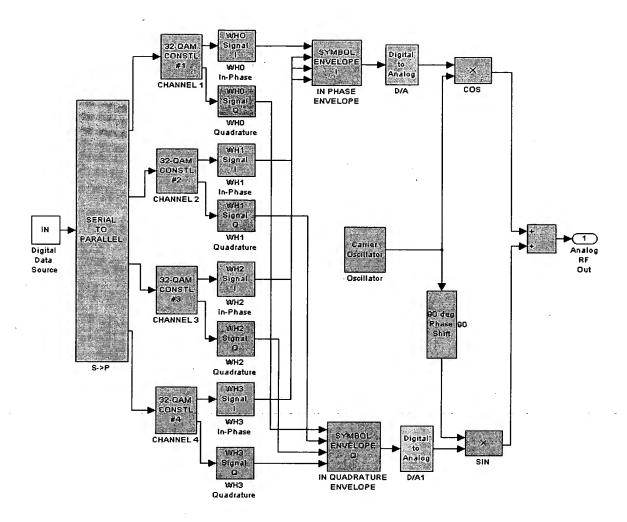


Fig 11A

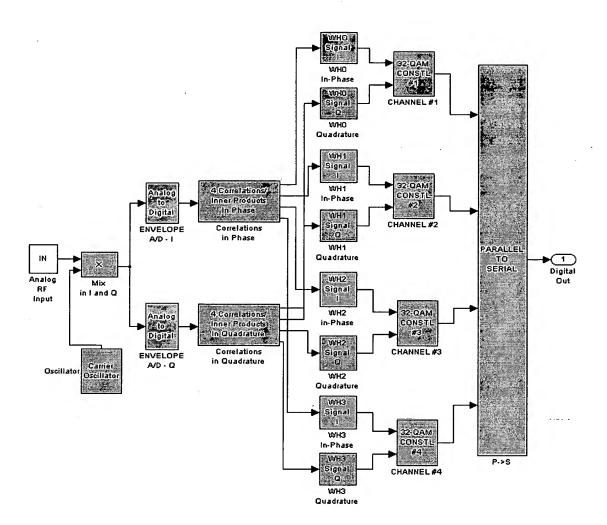
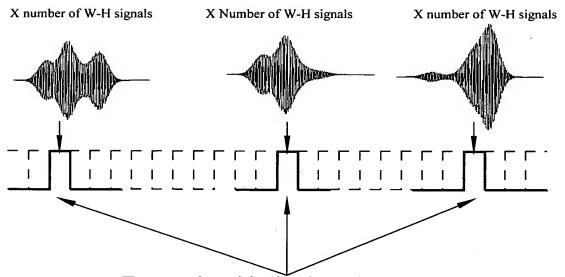


Fig 11B

# ANALOG: Orthogonal Signal Spectral Overlay (OSSO)

### Data encoding by AM or QAM constellations



Temporal positioning by orthogonal codes

DIGITAL: Orthogonal Code Schemes (OCS)

Both TDMA and CDMA possible